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Journal of Environmental Policy & Planning

ISSN: 1523-908X (Print) 1522-7200 (Online) Journal homepage: https://www.tandfonline.com/loi/cjoe20

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To cite this article: Jonathan Pickering, Karin Bäckstrand & David Schlosberg (2020) Between environmental and ecological democracy: theory and practice at the democracy-environment nexus, Journal of Environmental Policy & Planning, 22:1, 1-15, DOI: 10.1080/1523908X.2020.1703276

To link to this article: https://doi.org/10.1080/1523908X.2020.1703276

Published online: 21 Feb 2020.

JOURNAL OF ENVIRONMENTAL POLICY & PLANNING
2020, VOL. 22, NO. 1, 1–15
https://doi.org/10.1080/1523908X.2020.1703276

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INTRODUCTION

Between environmental and ecological democracy: theory and practice at the democracy-environment nexus

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ABSTRACT

Concepts of ecological and environmental democracy seek to reconcile two normative ideals: ensuring environmental sustainability while safeguarding democracy. These ideals are frequently conceived as being in conflict, as democracy is perceived as too slow and cumbersome to deliver the urgent large-scale collective action needed to tackle environmental problems. Theories addressing the democracy-environment nexus can be situated on a spectrum from theories of *ecological democracy* that are more critical of existing liberal democratic institutions to theories of *environmental democracy* that call for reforming rather than radically transforming or dismantling those institutions. This article reviews theoretical and empirical scholarship on the democracy-environment nexus. We find continued theoretical and empirical diversity in the field, as well as vibrant debates on democratising global environmental politics, local material practices, and non-human representation. We argue for stronger dialogue between environmental political theory and empirical, policy-oriented research on democracy and sustainability, as well as further exploration of complementarities between ecological and environmental democracy. We identify four main areas of challenge and opportunity for theory and practice: public participation and populism; technocracy and expertise; governance across scales; and ecological rights and limits.

ARTICLE HISTORY
Received 5 February 2019
Accepted 8 December 2019

KEYWORDS
Ecological democracy; environmental democracy; democracy-environment nexus; green democracy; environmental governance

1. Introduction

Understandings of the relationship between democracy and the environment come in varying shades, including ideas of ecological, environmental and green democracy. A core theme of research on this relationship is whether it is possible to reconcile two widely held normative ideals: ensuring environmental sustainability while safeguarding democratic values and practices (Goodin, 1992). These two ideals are frequently conceived as being in conflict. If citizens accord low priority to ecological values, efforts to strengthen environmental protection and sustainability through democratic processes may falter. Conversely, securing environmental values through authoritarian rule comes at a high democratic price. The perceived tension between democracy and sustainability is reinforced by two notable features of contemporary politics: the rise of populism and nationalism in numerous countries amid declining public trust in democratic institutions and international organisations (Bang & Marsh, 2018); and a widely held view that the world has entered a state of ecological or climate emergency warranting a rapid and sweeping response (Gills & Morgan, 2019). At the same time, a resurgence in environmental activism, particularly among young people, offers renewed hope that democratic practices can coexist with progress towards sustainability (Wahlström, Kocyba, De Vydt, & de Moor, 2019).

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Varying theoretical and policy perspectives on how to reconcile these ideals can be depicted on a continuum or spectrum between *ecological* and *environmental* democracy, as proposed by Eckersley (2019; see also Schlosberg, Bäckstrand, & Pickering, 2019). Rather than using either term as a catch-all description for the thematic terrain covered in this article, we employ the *democracy-environment nexus* as the overarching term and maintain the terms ecological and environmental democracy as two ideal articulations of how this nexus should take shape. In brief, *environmental democracy* contends that reconciliation between the ideals could be achieved largely through reforming existing institutions of liberal democracy and capitalism to incorporate environmental values and expanding participatory governance. *Ecological democracy* sets out a more fundamental critique of neoliberal environmentalism and an agenda that is more transformative, participatory, cosmopolitan and ecocentric.

Although theorists of ecological democracy have often closely followed developments in environmental policy, dialogue between theoretical and empirical analysis of the complex relationship between environment and democracy has been tentative and sporadic. The special issue introduced in this article aims to foster a more sustained dialogue between various fields – environmental political theory, comparative environmental politics, international relations, and science and technology studies – on greening democracy and democratising environmental and natural resource management. The articles in this special issue offer conceptual and empirical explorations across multiple levels of governance, ranging from rewilding ecosystems and deploying renewable energy in rural communities to crafting international agreements and institutionalising planetary boundaries. This introduction seeks both to highlight common themes across the articles and to take stock of theoretical and empirical debates on the democracy-environment nexus.

We begin with a brief overview of the scholarly literature on the tensions, synergies and conflicts at the democracy-environment nexus, focusing primarily on the period from the late 1980s, when scholarly discussions in this area began to flourish. We then introduce the ideal types of ecological and environmental democracy and discuss various ways of conceptualising the relationship between the two. In the next section, we examine existing policy practice for signs of ecological or environmental democracy. We identify areas of opportunity and challenge for theory and practice at the democracy-environment nexus and outline how the collected papers speak to these areas. We conclude by identifying priorities for future research.

2. Theorising the democracy-environment nexus

2.1. Reconciling democratic processes and environmental outcomes?

Scholarly interest in the democracy-environment nexus intensified from the 1970s onwards in parallel with the rise of modern environmental movements (Fischer, 2017, p. 91). With environmental political theory maturing as a field of inquiry, the late 1980s and 1990s saw a burst of highly original theoretical work that bolstered the theoretical case for democracy's environmental credentials, including work on ecological rationality (Dryzek, 1987), green/environmental political theory (Barry, 1998; Eckersley, 1992) and deliberative democracy and the environment (Gundersen, 1995). The 1990s also saw the publication of several path-breaking collections on the democracy-environment nexus (Doherty & de Geus, 1996; Lafferty & Meadowcroft, 1996; Mathews, 1995), as well as the appearance of the first book to feature the term 'ecological democracy' in its title (Morrison, 1995) and the first monograph on environmental democracy (Mason, 1999).

Eckersley (2019, p. 1) situates this turn against the backdrop of post-Cold War optimism about democracy among many political theorists. These theorists often saw discursive or deliberative democracy as a promising way of strengthening ecological outcomes because of the potential for inclusive and respectful dialogue to prioritise long-term, shared interests over short-term, private ones. In the 2000s, research that sought to reconcile liberalism and sustainability within the framework of environmental democracy expanded. Scholars continued to explore connections between environmental protection and deliberative democracy (e.g. Baber & Bartlett, 2005; Smith, 2003), and research on ecological/environmental citizenship and the green state grew apace in the wake of books by Dobson (2003) and Eckersley (2004) respectively.

Much early work on the democracy-environment nexus prescribed participatory, decentralised governance, citizenship and grassroots social movements as antidotes to environmental malaise (Mitchell, 2006). Others (e.g. Goodin, 1992; Jasanoff, 1996) emphasised the difficulty of resolving tensions between environmental science and 'green' outcomes on the one hand and democratic processes on the other. Work on environmental and ecological democracy has engaged closely with the rise of environmental social movements and Green political parties (e.g. Dryzek, Downes, Hunold, & Schlosberg, 2003; Goodin, 1992; Lafferty & Meadowcroft, 1996). However, it is only more recently that democratic practices, possibilities and constraints in global environmental politics have been studied in depth (Baber & Bartlett, 2015; Bäckstrand, 2006; Bernstein, 2001; Dryzek & Stevenson, 2011). By giving non-state actors voice, access and institutionalised channels for representation and participation in agenda-setting, monitoring and implementation, it is expected that stronger ownership and compliance – and ultimately enhanced environmental outcomes – will follow (Mason, 2008).

Interest in democratising global environmental politics has attained new urgency with the explosion of scholarly debate on the Anthropocene: a proposed new geological epoch characterised by unprecedented and pervasive human impact on the Earth's life-support systems (Steffen, Grinevald, Crutzen, & McNeill, 2011). A key claim made in democratic theories of the Anthropocene is that the democratic institutions that developed in the late stages of the preceding epoch – the Holocene – lack a capacity to respond effectively to signs of ecological degradation, meaning that democracy needs to be reimagined in ways that are capable of delivering legitimate and effective responses to planetary crisis (Dryzek & Pickering, 2019; Mert, 2019a; Niemeyer, 2014; Schlosberg, 2016; Tremmel, 2019). Against the backdrop of global environmental concerns, the capacity of democracies to respond to climate change has increasingly taken centre stage in both theoretical debates and empirical analysis (Fiorino, 2018; Fischer, 2017; Hanusch, 2018).

The 2010s have seen further theoretical development of the democracy-environment nexus, including debates on avenues for reconciling environmental protection and democratic processes (Wong, 2016), employing theories of deliberative democracy to envisage democratic modes of governing the Earth system (Dryzek & Stevenson, 2011), and applying Mouffe's agonistic democratic theory to explore the possibility of 'radical democracy' in climate change policy (Machin, 2013). This period has also seen thematic expansions to encompass how nonhuman and other entities can 'co-participate' in democratic practice (Disch, 2016), and relationships between everyday environmental practice and radical politics (Eckersley, 2019; Meyer, 2015; Schlosberg & Coles, 2016). Finally, the field has seen belated attention to diverse practices and conceptions of ecological democracy beyond Western, Anglophone spheres (Bourg, 2011; Kashwan, 2017; Kothari, Demaria, & Acosta, 2014).

Research on ecological and environmental democracy could be seen as part of a larger constellation of research that connects environmental and democratic values theoretically and empirically, including work on participation, environmental justice, transparency, accountability and legitimacy in environmental governance (see e.g. Agyeman, Schlosberg, Craven, & Matthews, 2016; Biermann & Gupta, 2011; Kramarz & Park, 2016). Emerging areas on this spectrum include newly coined variants of democracy, such as carbon democracy (Mitchell, 2011) and energy democracy (Szulecki, 2018). The former argues that the rise of modern democracies is entwined with the development of fossil fuel industries, while the latter explores pathways to democratising energy production and consumption.

2.2. Critiques

Arguments supporting a reconciliation between democracy and environmental protection have long met with vigorous criticism. Sceptics object that liberal democracies premised on free choice generate or reinforce individualism, greed, profit-seeking, and overconsumption – behaviour that is at odds with core values of sustainability (Heilbroner, 1974). Democracy is perceived as too slow, compromising, cumbersome, and captured by interest groups and veto players to generate the transformative change needed for sustainability. Instead, 'eco-authoritarian' or 'survivalist' accounts argue that a hierarchical, technocratic and centralised response featuring a strong state or 'green leviathan' – and a corresponding global authority – is necessary to avert environmental catastrophe (Hardin, 1968; Ophuls, 1977). Interest in eco-authoritarianism revived from the mid-2000s onwards as the urgency of combating climate change risks became increasingly apparent (see Humphrey,

2007; Shearman & Smith, 2007; for a rebuttal see Shahar, 2015). Other accounts favour managerial or technocratic responses to climate change, or a new Promethean eco-modernism, as a means of circumventing political polarisation (see e.g. Asafu-Adjaye et al., 2015; Giddens, 2009).

Some recent critiques of ecological democracy take a more nuanced approach. Fischer (2017) argues that, given the tight timeframes and urgency necessary to avert climate crisis, the prospects for ecological democracy are greater at local levels where democratic transformation can be more readily achieved. Blühdorn (2013, p. 29) contends that with the greater emphasis that late modern societies place on individual freedom, 'more democracy' – understood in terms of greater responsiveness to citizens' demands – 'may well imply even less sustainability'.

2.3. Relationships between ecological and environmental democracy

The distinction between ecological and environmental democracy can help to categorise theories of the democracy-environment nexus. Ecological democracy is more critical of existing liberal democratic institutions – particularly those associated with capitalist markets, private property rights and the prevailing multilateral system – and more ecocentric. Eckersley (2004), a key proponent of ecological democracy, notes the crucial importance of ensuring that the interests of non-humans and future generations are represented in decision-making. Environmental democracy, by contrast, revolves around reforming (rather than transforming) existing institutions of liberal democracy. Environmental democracy thus resonates with ideas of green liberalism (Wissenburg, 1998) or liberal environmentalism (Bernstein, 2001) and is also more anthropocentric in its outlook (see for example Arias-Maldonado, 2012; Mason, 1999; Smith, 2003). Key distinctions between the two ideal types are outlined in Table 1.

When compared with environmental democracy, ecological democracy tends to set more demanding normative standards, both in terms of environmental protection (which must be adequate for non-human as well as human well-being) as well as democratic inclusion (because decision-making processes must ensure that non-human interests and future generations are adequately represented). Even so, the two concepts do not form a neat binary distinction: each represents an ideal type along a spectrum, and intermediate or hybrid accounts are possible. For example, some accounts of ecological democracy give greater prominence to the state (e.g. Eckersley, 2004), while others emphasise the transformative potential of civil society and discourse (e.g. Dryzek, 2000), even though both maintain an ecocentric perspective. Morrison's (1995) and Faber's (1998) accounts of ecological democracy, by contrast, envisage the transformation of industrial capitalism from an anthropocentric perspective.

Despite their differences, theories of ecological and environmental democracy are united by a shared interest in whether democratic processes can be compatible with strong environmental outcomes (Eckersley, 2019).

Table 1. Ideal types on the ecological–environmental democracy spectrum.[a]

	Ecological democracy	Environmental democracy
Orientation towards:		
Human-nonhuman values	Ecocentric	Anthropocentric
Liberal democracy	Foundational critique	Friendly critique
Change	(Radical) ecological transformation	(Reformist) ecological modernisation
Institutions and actors	Critical of existing states & multilateral system Critical of capitalism Civil society as resistance/opposition/critic	Working within state & multilateral system Reconciliation with (reformed) capitalism Civil society as active partner
Practical examples	Legal/constitutional rights of nature/ecosystems Radical grassroots environmental movements Sustainable materialism	Substantive and procedural environmental rights for people Civil society participation/partnerships in environmental governance

[a]This typology builds on a set of distinctions outlined in Eckersley (2019). Individual theories of ecological/environmental democracy may combine elements from both columns.

They also share an interest in what kinds of arrangements for participation, representation and deliberation are necessary to secure democratic legitimacy in environmental decision-making. Wong (2016) offers a systematic account of strategies for managing tensions between environmental ends and democratic processes, including placing restrictions on the permissible range of democratic decisions (e.g. through entrenching environmental rights) or relaxing theoretical claims about the causal relationship between democracy and environmental outcomes (e.g. claiming that pro-environmental outcomes are *more likely* rather than *guaranteed* under ideal democratic processes).

Attention to the commonalities between ecological and environmental democracy opens up possibilities for seeing them as complements rather than merely as competitors. In some respects, each conception appears to preclude the other: one cannot, for example, advocate for the wholesale transformation or abolition of existing institutions while also calling for their incremental reform. But other forms of complementarity are possible. For example, a *sequential* understanding of the relationship might view environmental democracy as a stepping stone towards ecological democracy (for a glimpse of this view, see Eckersley, 2019, p. 17). However, it remains possible that entrenching environmental democracy through reformed liberal institutions may ultimately hinder the wholesale transformational change needed to achieve ecological democracy. Nevertheless, given the persistence of obstacles to the achievement of radical ecological democracy, creative combinations of elements from both ideal types may be necessary to identify pathways out of unsustainable conditions. Thus one could also envisage a *co-existent* or *synergistic* relationship whereby environmental and ecological democracy are fostered simultaneously in different domains, with each type of practice helping to compensate for the limitations of the other (Eckersley, 2019, p. 16). For example, civil society may be best placed to enhance environmental governance if some parts engage in a radical critique of existing institutions while others engage in partnerships with those institutions, which was an original strategy of the German Greens. Or a focus on creating more ecologically sustainable and fair food systems in local practice could exist alongside more traditional political lobbying and action at state and federal levels. Finally, a democratic *proceduralist* approach could argue that neither ideal is normatively preferable *ex ante*. Instead, the ecological–environmental democracy spectrum could be viewed as a space of possible outcomes that satisfy both environmental and democratic values (based on a minimal set of widely shared normative assumptions), and the desirable point on the spectrum should be left up to societies to decide through democratic means (for a comparable argument, see Hammond, 2019).

3. Environmental and ecological democracy in practice: innovations and impacts

Following a brief overview of cross-country evidence on the environmental performance of democracies, we highlight three areas of democratic innovation in environmental politics and discuss evidence for their impacts: the expansion of civil society participation in global environmental governance; new forms of environmental social movements at local levels; and the institutionalisation of environmental rights.[1] These innovations have not always been couched in the language of ecological or environmental democracy, although policymakers in France (2008) and in UN Environment Programme (2018) respectively have invoked these terms supportively. While some of the civil society initiatives outlined below are inspired by ideals of ecological democracy, most of the institutional changes that have taken place so far are best seen as experiments in environmental democracy.

3.1. Evidence from comparative environmental politics

Comparative empirical assessment of relationships between democracy and environmental performance has yielded mixed conclusions. While there is significant cross-country evidence for a linkage between democracy on the one hand and the adoption of environmental policies and membership of environmental treaties on the other (Neumayer, 2002; Wurster, 2013), the relationship between democracy and environmental policy outcomes, such as per capita greenhouse gas emissions, is not consistently positive (Bättig & Bernauer, 2009; Böhmelt, Böker, & Ward, 2016; see also the discussion of public participation in Section 4.1 below). Nevertheless, the weight of evidence suggests that democracies generally exhibit better environmental performance than non-

democracies or autocracies (Fiorino, 2018; Li & Reuveny, 2006). This finding is commonly attributed to greater pluralism, civil society activism, stronger institutions and electoral accountability in democratic societies which render them more open to popular demands for the provision of public goods (Winslow, 2005; see also Duit, Feindt, & Meadowcroft, 2016). The challenge of reaching definitive conclusions is made more complex by the fact that democracies come in varying shades. There is evidence that democracies perform better in confronting environmental problems if they have higher democratic quality (Hanusch, 2018), lower corruption (Povitkina, 2018) and a longer history of democratic institutions (Fredriksson & Neumayer, 2013).

3.2. Civil society participation in global environmental governance

The past 25 years of multilateral summitry on climate and sustainable development have consolidated a model of 'participatory' or 'bottom-up' multilateralism involving civil society participation, multi-stakeholder dialogues, and institutionalised representation of non-state actors. The United Nations Conference on Environment and Development in Rio de Janeiro in 1992 paved the way for institutionalised civil society participation in global climate diplomacy (Fischer, 2017, p. 93; UN, 1992, chapter 23, p. 2). Betsill and Corell's (2008) pioneering work on NGO diplomacy demonstrates how participatory democratic innovations informed early global environmental negotiations. The adoption of the UN Sustainable Development Goals and the Paris Agreement in 2015 reinforced the idea that participation by non-state actors in global sustainable development diplomacy is essential to effective collective problem-solving (Hale, 2016; Sénit, Biermann, & Kalfagianni, 2017).

Transnational actors – encompassing civil society organisations as well as scientific communities and corporations – have enjoyed steadily growing access to international environmental organisations during the period 1950–2010 (Sommerer & Tallberg, 2017). However, levels of participation vary across domains and modes of governance: for example, civil society is much less intensively engaged in networked climate governance than in multilateral climate negotiations (Stevenson & Dryzek, 2014).

Evidence on the effects of civil society participation on global environmental decision-making is mixed, fragmented and inconclusive (Bäckstrand, Khan, Kronsell, & Lövbrand, 2010; Newig & Fritsch, 2009). Quantitative analysis shows that the higher the number of environmental NGOs participating in environmental treaty negotiations the stronger states' commitments tend to be (Böhmelt & Betzold, 2013). However, despite the large civil society presence at UN climate change conferences, its overall impact on the outcome of negotiations has been limited (Rietig, 2016; Stevenson & Dryzek, 2014). Moreover, participation in global environmental governance can co-opt actors rather than empower them (Mert, 2019b). A synthesis of participatory and democratic innovations in national and global environmental governance concludes that 'there is no guarantee that deliberative governance arrangements will deliver green outcomes' (Bäckstrand et al., 2010).

3.3. Environmental rights

Environmental rights are an increasingly common feature of national constitutions and legislation (Gellers, 2017; Hayward, 2005). Procedural environmental rights have attained growing prominence in international environmental law, particularly with the 1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, commonly known as the Aarhus Convention (UNECE, 1998). Building on Principle 10 of the 1992 Rio Declaration on Environment and Development, the Aarhus Convention sets out three core procedural rights in relation to government decisions on environmental matters: access to information, participation and access to justice (see Baber and Bartlett, 2020). The subsequent Bali Guidelines, which aim to help institutionalise procedural environmental rights beyond the Convention's primarily European signatories, are a promising step forward but have achieved limited profile internationally (Etemire, 2016). However, regional efforts to implement Rio Principle 10 are bearing fruit, notably with the adoption of the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (the Escazú Agreement) in 2018 (ECLAC, 2018).

There is some evidence that environmental rights have a positive impact on environmental outcomes. Environmental performance is stronger on average in countries that entrench procedural environmental rights in national legislation, although a correlation between substantive environmental rights (e.g. the right to a safe or healthy environment) and environmental outcomes is less evident (Gellers & Jeffords, 2018; WRI, 2015).

3.4. Social movements

A dual commitment to grassroots democracy and environmental protection is arguably a defining feature of green political parties and many environmental organisations. In this sense, democracy has a long pedigree in the environmental movement.[2] Nevertheless, environmental organisations have long faced criticism from various quarters – including environmental justice advocates – for privileging environmental conservation over democratic values (Guha, 1989).

Since space precludes a detailed discussion of environmental social movements (for earlier key contributions, see Lipschutz & Mayer, 1996; Wapner, 1996), we touch briefly on one important theme of recent work in this area: the democratic practices of environmental movements and collective action. Research on prefigurative environmental politics of practice (Yates 2015) and on sustainable materialism (Schlosberg & Coles, 2016) explores the democratic implications of the relationship between everyday life and environmental values. Many new environmental movements organising around the sustainable flow of materials of everyday life – such as local food systems, community energy, and sustainable fashion – demonstrate a commitment to what we label here as ecological democracy (Eckersley, 2019; Schlosberg & Craven, 2019). In particular, activists illustrate a desire for *material* participation as part of a democratic politics – actively engaging themselves in practices that are simultaneously democratic, sustainable, and attentive to material flows – rather than engaging in a superficial form of 'lifestyle politics'.

The recent history of grassroots environmental politics reveals a rich array of examples where social movements have changed environmental policy and practice, ranging from environmental justice to fossil fuel divestment (Cole & Foster, 2001; Klein, 2017). Environmental social movements may also engender change in broader democratic processes. However, local movements face major difficulties in ensuring durability and scaling up their impacts to counterbalance broader systemic forces driving ecological degradation (Eckersley, 2019, p. 15). Meyer (2015) argues that a focus on the activities of the everyday – in terms of people's homes and transportation, for example – actually increases the resonance of environmental initiatives in the public sphere. Schlosberg and Craven (2019) report environmental activists' frustrations with state, national, and global policy efforts as the motivation to turn to create more participatory and sustainable material systems. 'Success' here is often defined as the ability to create and participate in local democratic and sustainable flows, rather than success in national or global policy arenas.

4. Challenges and opportunities for ecological and environmental democracy

We now turn to four key areas that continue to attract debate from scholars working on the environment-democracy nexus while also posing crucial challenges for environmental practice. Each of these areas constitutes a recurring theme across the articles in this special issue, and we highlight how the papers illuminate these themes.

4.1. Citizen participation and populism

Despite the optimism of many scholars about the environmental promise of public participation, studies of participatory initiatives underscore that engaging citizens in meaningful deliberation can be challenging and that some forms of participation may serve to reinforce existing power inequalities (Bäckstrand et al., 2010; Delina, 2020).

Empirical studies of participatory initiatives in environmental governance show mixed results. A meta-analysis of 47 participatory environmental processes in industrialised countries found that the environmental

outcomes of these processes largely reflected participants' underlying interests, which were not always aligned in favour of environmental protection (Newig & Fritsch, 2009). Other small-n studies suggest that the deliberative quality of participatory forums may be an important factor in influencing whether they generate stronger environmental outcomes. Deliberative 'mini-publics' (involving small groups of randomly selected citizens) on climate change can shift discourses on the issue (Hobson & Niemeyer, 2011) and produce greater understanding of others' positions (Lo, 2013). While existing studies focus primarily on participatory initiatives in industrialised countries (Bäckstrand et al., 2010; Lafferty & Meadowcroft, 1996; Smith, 2003), Delina's (2020) analysis of a renewable energy network in rural Thailand presents valuable evidence of the capacity of community deliberation to yield effective action on climate change amidst other pressing development priorities.

While public participation in environmental governance is often viewed as a central feature of environmental democracy, theories of ecological democracy also call for the representation of non-human interests in decision-making, given that they cannot participate directly in political debate or discourse on the same footing as humans. One possibility is for environmental organisations, Indigenous peoples or conservation scientists to act as representatives or custodians of non-human interests (Winter, 2019). However, difficult questions remain about who should count as a legitimate representative of those interests, and how representatives can reliably gauge what those interests actually are (Eckersley, 2011).

The rise of populist anti-environmentalism and declining public trust in democratic institutions raise doubts about the ability of contemporary democracies to safeguard environmental values (McCarthy, 2019). Some authoritarian populist leaders – epitomised by US President Donald Trump and Brazilian President Jair Bolsonaro – have simultaneously attacked environmentalism, multilateralism and democratic institutions, despite their rhetorical appeals to the will of the people. However, populism need not be seen as an inevitable by-product of democracy but may be a symptom of democratic dysfunction (Bomberg, 2017). Some strategies proposed for responding to populism – such as reducing inequality, enhancing citizen deliberation and reconnecting politics with citizens' everyday lives (Bang & Marsh, 2018) – may simultaneously yield positive environmental outcomes. At the same time, ongoing partisan polarisation on climate change (particularly in Anglophone countries) and public backlash against environmental policies (exemplified by the Gilets Jaunes movement in France) underscore that efforts to realise ecological or environmental democracy need to nurture broad-based public support and take account of the concerns of vulnerable and disenfranchised groups.

4.2. Technocracy and the politics of expertise

Experts have an ambivalent role in democratic environmental politics. Scientific knowledge about the state of ecosystems is crucial for making informed judgments on environmental matters. Yet reliance on experts can undermine democratic legitimacy by devaluing citizens' knowledge and experience in scrutinising and contesting the values underpinning expert claims (Fischer, 2017).

Research drawing on theories of deliberative democracy and Science and Technology Studies has proposed approaches for the democratisation of environmental expertise (e.g. Berg & Lidskog, 2018; Jasanoff, 1996; Stirling, 2015). Recent decades have also seen significant democratic innovations in environmental science-policy interactions, including deliberative forums that connect citizens with experts on issues such as climate change and biodiversity (Rask, Worthington, & Lammi, 2012), environmental justice movements mobilising and connecting community knowledge and scientific expertise (Ottinger, 2013), and efforts to draw on indigenous, lay and local insights in global knowledge assessments (Esguerra, Beck, & Lidskog, 2016).

Two articles in this issue, working respectively at domestic and global levels, explore relationships between experts, policy-makers and citizens in deliberating over environmental matters. Takacs (2020) asks whose voices should count in debates over rewilding, reducing greenhouse emissions from deforestation (REDD+) and biodiversity offsetting. He argues that those voices whose positions are compatible with 'deep equity' (i.e. with 'maximising and synergising individual, community, and nonhuman health and potential') should be privileged. In practice, this may mean that the voices of biologists advocating for biodiversity conservation should be given more weight than those of stakeholders who pursue narrower

interests. Pickering and Persson (2020) scrutinise the role of experts in defining 'planetary boundaries' (see also Section 4.4 below). They argue that experts have an important role in democratic debate by warning citizens and policy-makers of global ecological risks, but that the value judgments underpinning these warnings need to be rendered transparent and open to public debate. Together the papers identify new ways of situating experts in an environmental democracy.

4.3. The democracy-environmental nexus across scales

In normative democratic theory, the all-affected principle requires that all those affected by collective decisions should be involved in decision-making (Eckersley, 2004; Goodin, 1996). A major driver for scholarly work on the democracy-environment nexus – and simultaneously a major hurdle to its achievement in practice – is the poor fit between the political and territorial boundaries of states on the one hand and the geographic distribution of ecosystems and affected groups on the other (Eckersley, 2019). An increasingly pressing concern is that major impacts of environmental change – from climate change to biodiversity loss to marine pollution – transcend national borders. In response to these threats, a wide range of intergovernmental institutions, private governance initiatives and social movements now operate transnationally.

Nevertheless, the diverse scholarship on environmental and ecological democracy often limits its scope to local or national politics or argues for a return to the local in light of the shortcomings of global and national responses to environmental problems (Fischer, 2017, p. 90). With rare exceptions (e.g. the conclusion to Eckersley, 2017; Mason, 1999; Stevenson & Dryzek, 2014; see also Niemeyer, 2020), few accounts spell out what ecological or environmental democracy should look like at a global level. A contrasting concern is that research in global environmental governance – particularly work that invokes concepts of the Anthropocene – tends to elide differences across societies and thereby exhibits anti-democratic tendencies (Malm & Hornborg, 2014). However, a global perspective remains compatible with acknowledging regional and intra-communal diversity and inequality (Biermann et al., 2016; Dryzek & Pickering, 2019; Pickering and Persson, 2020).

Despite a growing interest in applying notions of accountability and legitimacy to polycentric environmental governance (Ostrom 2010; Morrison et al. 2017; Bäckstrand, Zelli, & Schleifer, 2018), relationships between democratic practices at different levels of environmental governance remain understudied. Existing evidence – although limited and fragmentary – suggests that polycentric governance systems consisting of multiple agents, levels of governance and actors, are more likely to yield more effective environmental outcomes than monocentric or centralised governance (Newig & Fritsch, 2009). However, diffusing, coordinating and scaling up policy initiatives in polycentric systems remains a challenge (Delina, 2020). Niemeyer (2020) combines ideas of polycentric governance with theories of deliberative systems to map out how deliberative citizen forums can enhance ecological reflexivity in the public sphere through a system of 'nested polycentrism'. Others are critical of institutional accounts of ecological or environmental democratisation and emphasise instead the importance of cultural change (Hammond, 2019) and collective self-organisation (Lepori, 2019).

4.4. Boundary problems: environmental rights and ecological limits

Ecological democracy, Dryzek (2013, p. 238) argues, is 'democracy without boundaries'. What he has in mind here is that (as outlined in the previous section) ecological democracy requires looking beyond jurisdictional boundaries, as well as beyond the conceptual boundaries traditionally drawn between humans and non-humans. Others argue that different types of boundaries remain essential for safeguarding ecological democracy. Two prominent examples of such boundaries are environmental rights and ecological limits.

Legally entrenched rights can pose a challenge to theories of democracy if they cordon off some aspects of the law from conventional processes of the popular amendment. However, Baber and Bartlett (2020), invoking Eckersley (2004, p. 137), argue that environmental rights can enhance democratic debate rather than shut it down. They assess emerging consensus in three areas of rights – rights to access information and decision-making, to food and water, and to environmental security – and argue that environmental rights should not be seen in isolation from other human rights but rather as part of an integrated 'declaration of interdependence'.

Rights are sometimes viewed as irredeemably anthropocentric but democratising environmental politics could also involve the extension of rights to non-humans. One area of tentative progress involves the granting of rights of personhood to some non-human entities, such as rivers or ecosystems in New Zealand and India (Safi, 2017; Winter, 2019), or to Mother Earth in Ecuador's constitution (Espinosa, 2019). However, work needs to be done to further understand how the rights of nature will work in practice or diffuse further internationally.

A key point of contention over ecological limits is whether they unduly restrict citizens' freedom to choose among different societal goals (e.g. economic growth), tipping the balance in favour of green outcomes and thereby undervaluing democratic procedures (Dobson, 2016). Evolving scientific understanding about potentially catastrophic risks associated with the disruption of the Earth system casts this debate in a new light. Some (e.g. Hickmann, Partzsch, Pattberg, & Weiland, 2019; Purdy, 2015) maintain that the advent of the Anthropocene, in fact, reinforces the importance of setting boundaries to safeguard future democracy. Pickering and Persson (2020) argue that the planetary boundaries framework can be interpreted and operationalised in ways that are compatible with democratic legitimacy, provided that there is space for inclusive debate over what constitutes unacceptable ecological risk and over how associated planetary targets should be developed to manage this risk. The planetary boundaries framework retains an anthropocentric focus in its intention to define a 'safe operating space *for humanity*' (emphasis added); however, an ecocentric approach could extend the idea of a safe operating space for integrated and entangled humans and non-human systems.

5. Conclusion: priorities for future research

The contributions to this special issue recognise serious conceptual and practical impediments to the concurrent pursuit of democratisation and environmental sustainability. Nevertheless, they offer evidence that pathways towards these twin ideals can be found through inclusive and meaningful dialogue and institutional design that grapples with both the planetary scale of contemporary ecological challenges and diverse local circumstances. Most of the papers align with scholarship on environmental democracy to the extent that they emphasise reform rather than a radical overhaul of institutions such as the sovereign state system, modern science and multilateralism. Yet the papers also underscore the need for transformative change, particularly through reconfiguring relationships between local, national and global decision-making, and rendering public deliberation both more inclusive of citizens' voices and more attuned to environmental values and realities. In this way, the special issue demonstrates the value of drawing on features of both environmental and ecological democracy to advance research frontiers and deepen the democratic practice.

There is an urgent need for further theoretical development, empirical assessment and policy innovation at the democracy-environment nexus (Burch et al., 2019). The imaginative, boundary-transcending impetus of earlier work on ecological democracy remains as important as ever, particularly in envisioning what democracy should look like in the increasingly unstable conditions of the Anthropocene. At the same time, more pragmatic, policy-oriented work on environmental democracy remains essential if societies are to chart feasible and publicly supported pathways out of unsustainable practices (see also Eckersley, 2019, pp. 16–17). Future theorising needs to: build systematic accounts of factors that may facilitate or impede the democratisation of environmental politics and the ability of democratic practices to enhance environmental outcomes; better understand the democratic possibilities and pitfalls associated with rapid transformative change towards more sustainable societies; articulate more clearly what a democratic global environmental politics (or 'planetary democracy') might look like; and engage more closely with non-Western, non-individualistic, and post-liberal understandings and practices of both environment and democracy. Trends and directions in environmental justice research mirror some of the key issues for ecological and environmental democracy noted here (Agyeman et al., 2016; Pellow, 2017); more work at the interface of the two would be productive.

While there is still value in accumulating further evidence on whether democracies perform better on environmental protection than non-democracies and authoritarian states, it is just as important to form a deeper understanding of why some democratic polities exhibit better environmental performance than others, how countries that are democratically progressive but environmentally recalcitrant can do better (Hanusch, 2018), and how practices of environmental and ecological democracy can take root in authoritarian societies. Large-n

quantitative methods will continue to be important, but these need to ensure greater nuance in measures of democratic quality. Finer-grained single-case and comparative analysis is also crucial, particularly through employing methods such as process tracing to disentangle complex causal relationships between democratic innovations and environmental outcomes.

Finally, both theoretical and empirical investigation needs to take account of broad contemporary social and ecological trends, including the resurgence of anti-environmental populism, rising hostility towards multilateralism, the expansion of online political engagement and participation, the increasing sense of emergency and crisis surrounding the planet's accelerating ecological degradation, and the related growth of new environmental movements, demands, and strategies in response.

Notes

1. Space restrictions preclude detailed exploration of other areas, including democratic innovations at the national level (apart from those relating to environmental rights), although some of the participatory initiatives discussed in Section 4.1 below are the product of national policies.
2. By the mid-1980s, a 'League for Ecological Democracy' had formed in California (New Internationalist, 1987).

Acknowledgments

The ideas in this paper were initially developed in the course of organising a workshop on 'Ecological democracy: always greener on the other side?' at the University of Sydney in February 2017, and a draft was presented at the Earth System Governance conference at Lund University later that year. We are very grateful to the participants of these events for stimulating and insightful discussions on ecological democracy. Thanks are also due to John Dryzek, Robyn Eckersley, Peter Feindt, Thomas Hickmann, Hayley Stevenson and David Takacs for comments on drafts, and to Pierrick Chalaye for advice on literature.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was supported under the Australian Research Council's Laureate Fellowship funding scheme (project number FL140100154, led by John Dryzek).

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